ORIGINAL

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
KRISTIN K. MAYES - CHAIRMAN
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

E-01933A-09-0128

IN THE MATTER OF THE APPLICATION OF TUCSON ELECTRIC POWER COMPANY FOR APPROVAL OF A PROPOSED DEMAND-SIDE MANAGEMENT ("DSM") TARGETED BASELINE STUDY.	DOCKET NO. E-01933A-_____ **APPLICATION FOR APPROVAL**

Tucson Electric Power Company ("TEP" or "Company"), through undersigned counsel, hereby respectfully requests that the Arizona Corporation Commission ("Commission") issue an order approving TEP to engage in a Demand-Side Management ("DSM") Targeted Baseline Study ("Baseline Study") to be completed by Summit Blue Consulting ('Summit Blue"). Additionally, TEP respectfully requests the Commission's approval to recover all costs of the Baseline Study through the DSM Surcharge that will be effective June 1, 2009.

I. INTRODUCTION

TEP respectfully requests Commission approval to proceed with a Baseline Study to support requests made by the Commission in Decision No. 70459 (August 6, 2008) for baseline construction data, and in Decision No. 70403 (July 3, 2008) for up-to-date local price, size and efficiency information. The scope of the study is outlined in the Scope of Work to Conduct a DSM Targeted Baseline Study ("Scope of Work"), attached hereto as Attachment A, and includes the targeted research areas of the study and the work plan methodology. The implementation schedule and milestones for the study are shown in Exhibit 3-1 of the Scope of Work (Attachment A).

ROSHKA DEWULF & PATTEN, PLC
ONE ARIZONA CENTER
400 EAST VAN BUREN STREET - SUITE 800
PHOENIX, ARIZONA 85004
TELEPHONE NO 602-256-6100
FACSIMILE 602-256-6800

Information gathered from the study will support improvements in the DSM program design, delivery, and cost-effectiveness calculations. This Baseline Study will also address research areas previously identified by the Commission as requiring additional research, such as incremental equipment costs for equipment for the Company's region.

The purpose of the Baseline Study is to collect key information that will assist with the following primary areas:

- Research Area No. 1: Baseline Efficiency Characteristics, Market Availability and Customer Penetration Rates;
- Research Area No. 2: DSM Measure Incremental Costs;
- Research Area No. 3: Baseline Profiles of Key Customer Market Segments; and
- Research Area No. 4: Market Assessment Review of Key DSM Sectors.

Results of the Baseline Study will be used to evaluate existing DSM program design, help to identify new program opportunities, and provide Arizona-based estimates on costs and savings which will be used to re-screen programs for cost-effectiveness.

II. RECOVERY OF COSTS AND BUDGET

In order to maximize efforts and reduce total costs such as travel, training and on-site analysis, UniSource Energy Corporation ("UNS") requested that Summit Blue provide one estimate for the Baseline Study for all UNS affiliates: UNS Electric, Inc.; UNS Gas, Inc.; and TEP. The total budget estimate for UNS is $590,550. The portion of the budget associated with the study of the TEP service territory is $293,324, which will be recovered in the DSM Surcharge. The planned budget detail is more fully explained in Exhibit 3-2 of the Scope of Work (Attachment A).

TEP requests Commission approval to recover all costs of the Baseline Study through the DSM Surcharge that will be effective June 1, 2009. The incremental increase in the DSM Surcharge to recover the cost for the Baseline Study will be $0.000031 for one full year, as shown below.

Budget Amount	Projected kWh Sales (2009)	DSM Adjustor (incremental)
$293,324	9,505,340,000	$0.000031

III. CONCLUSION

Wherefore, for all the foregoing reasons, TEP respectfully requests Commission approval to 1) engage in the proposed Baseline Study; and 2) recover the costs associated with the Baseline Study through the DSM Surcharge that will be effective June 1, 2009. Once recover of the Baseline Study costs are approved by the Commission, TEP will engage Summit Blue to perform the Baseline Study.

RESPECTFULLY SUBMITTED this 17th day of March 2009.

Tucson Electric Power Company

By _____

Philip J. Dion
UniSource Energy Services
One South Church Avenue, Suite 200
Tucson, Arizona 85701

and

Michael W. Patten
Jason Gellman
ROSHKA DEWULF & PATTEN, PLC.
One Arizona Center
400 East Van Buren Street, Suite 800
Phoenix, Arizona 85004

Attorneys for Tucson Electric Power Company

ROSHKA DEWULF & PATTEN, PLC
ONE ARIZONA CENTER
400 EAST VAN BUREN STREET - SUITE 800
PHOENIX, ARIZONA 85004
TELEPHONE NO 602-256-6100
FACSIMILE 602-256-6800

ROSHKA DEWULF & PATTEN, PLC
ONE ARIZONA CENTER
400 EAST VAN BUREN STREET - SUITE 800
PHOENIX, ARIZONA 85004
TELEPHONE NO 602-256-6100
FACSIMILE 602-256-6800

Original and 13 copies of the foregoing filed this 17th day of March 2009 with:

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Copy of the foregoing hand-delivered/mailed this 17th day of March 2009 to:

Chairwoman Kristin K. Mayes
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Commissioner Gary Pierce
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Commissioner Paul Newman
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Commissioner Sandra D. Kennedy
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Commissioner Bob Stump
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Lyn Farmer, Esq.
Chief Administrative Law Judge
Hearing Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Janice M. Alward, Esq.
Chief Counsel, Legal Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

Ernest G. Johnson, Esq.
Director, Utilities Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

ROSHKA DEWULF & PATTEN, PLC
ONE ARIZONA CENTER
400 EAST VAN BUREN STREET - SUITE 800
PHOENIX, ARIZONA 85004
TELEPHONE NO 602-256-6100
FACSIMILE 602-256-6800

By Mary Appolito

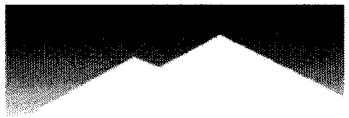
Attachment A

Scope of Work to Conduct a Demand-Side Management (DSM) Targeted Baseline Study for Tucson Electric Power

Submitted To:

Tucson Electric Power

February 22, 2009



SUMMIT BLUE
CONSULTING, LLC

Submitted to:

Denise Smith
Director, Renewable and Conservation Programs
Tucson Electric Power
4350 East Irvington Road
Tucson, AZ 85702
520.918.8339
drichersonsmith@tep.com

Submitted by:

Summit Blue Consulting, LLC
1722 14th Street, Ste. 230
Boulder, CO 80302
720.564.1130

Prepared by:

Marshall Keneipp
720.564.1130
mkeneipp@summitblue.com

TABLE OF CONTENTS

1 INTRODUCTION & KEY RESEARCH AREAS

This document presents the scope of services and budget for conducting a targeted demand side management (DSM) baseline and market assessment study for Tucson Electric Power's (TEP) DSM programs.

The purpose of the TEP baseline and market assessment study is to collect key information that will assist with both enhancements and accuracy of current DSM savings estimates and identify key information about the targeted and currently un-targeted markets where DSM program designs could be revised or introduced to maximize savings opportunities in the most cost-effective way possible.

The focus of the research will be on issues that are most relevant to the company's current portfolio of programs, and on those market segments, technologies, energy efficiency measures, and program initiatives which will likely provide the greatest savings and benefits to the company and its ratepayers.

In broad terms, the baseline and market assessment study will focus on TEP's existing DSM programs targeted at the residential and commercial and industrial sectors (C&I), with a focus both on specifically gathering information related to TEP's existing program offerings, and identifying new market opportunities for program re-design or enhancements.

As detailed in Exhibit 1-1, TEP is delivering a wide range of DSM programs in both the residential and C&I sectors.

Exhibit 1-1: TEP's DSM Portfolio (2009-2013)

Utility	Sector	Program	Included in Baseline Scope of Work
TEP	Cross-market	Education and Outreach	No
		Direct Load Control Program	No
	Residential	Low-Income Weatherization	No
		Residential New Construction (Guarantee Homes Program)	Yes
		Residential HVAC Retrofit	Yes
		Shade Tree Program	No
		CFL Buydown Program	Yes
	C&I	Non-Residential Existing Facilities Program	Yes
		Efficient Commercial Building Design	Yes
		Small Business Program	Yes

For the purposes of this scope of work, TEP will focus on collecting baseline information and market assessment related to the programs identified in Table 1 except for the following programs:

- Low Income Weatherization
- Shade Tree Program
- Education and Outreach

- Direct Load Control

The specific objectives of the study, with respect to TEP's current portfolio of DSM programs, are to investigate the following four key research areas as they relate to the residential and C&I sector and TEP's program areas of emphasis. They include the following:

1.1 Research Area # 1: Baseline Efficiency Characteristics, Market Availability and Customer Penetration Rates

- Identify the baseline efficiency characteristics of key end use applications (e.g., lighting, HVAC, motors, etc.).
- Identify the high efficiency alternatives to baseline equipment for key end use applications (e.g., lighting, HVAC, motors, etc.).
- Identify the market availability (availability at retail/wholesale outlets) of the high efficiency alternatives to baseline equipment for key end-uses.
- Identify the market penetration of key end use technologies for both baseline and high efficiency alternatives for residential and commercial customers for key end use applications (e.g., lighting, HVAC, motors, etc.).
- Assess standard practices employed in new(er) commercial facility construction, including both discrete measures and whole building design practices.
- Assess new home construction characteristics, the overall level of energy efficiency in new home construction, the level of adoption of Energy Star, and areas of potential improvement with a particular focus on high growth areas such as the Kingman area (FOR UNSE/UNSG).

1.2 Research Area # 2: DSM Measure Incremental Costs

- Research the full installed and incremental costs for efficient technologies for key end use applications related to TEP's DSM programs (e.g., lighting, HVAC, motors, etc.).
- Research will develop cost models that are specific to the Arizona marketplace.
- Costs will be developed to reflect various program delivery methods (e.g. costs for CFLs installed by low income program will likely be different from costs of CFLs offered through upstream programs because of differences in volume).
- The research will identify how to integrate future cost data collection into program delivery where feasible.
- Cost data sources are expected to include but not be limited to:
    - Interviews with local distributors, contractors and design professionals (i.e., architects and engineers) and industry specialists;
    - On-site and point of sales data collection at area retail sources (e.g., retails cost data from the C&I Commercial Programs, retail costs data for CFL markdown programs);
    - Cost data from UES DSM programs; and

- Cost data from industry accepted secondary sources and websites will be used to identify how the local market is different from other markets.

1.3 Research Area # 3: Baseline Profiles of Key Customer Market Segments

- Identify key market segments and profile their operational characteristics for baseline consumption and savings estimation purposes.
- Provide documentation of information sources and data collection methods, including an explanation of how existing information was used and augmented with new research and analysis.
- Assess baseline conditions for residential lighting sales, applications including operating hours, coincidence with UES system peaks, and key measures of interest in-service rates (e.g. CFLs)
- Assess baseline conditions for key existing non-residential applications with a specific focus to the small building market segment with the aim of identifying current baseline conditions and energy efficiency opportunities, as well as barriers and infrastructure/delivery needs.
- Assess current baseline design conditions in C&I new construction and opportunities to increase energy efficiency and promote the whole building approach to energy efficient building design. This aspect of the study will also include baseline research into current design community capabilities and infrastructure needs and skills development.

1.4 Research Area # 4: Market Assessment Review of Key DSM Sectors

- Detail the current status of key DSM target markets, including a review of availability of efficient end-uses, assessment of knowledgebase and skill-set of key trade allies (e.g. homebuilders, HERS raters, C&I Design firms, etc.), and participation of key trade allies and retailers.
- Identify high impact energy efficiency improvements and key applications to target with energy efficiency program initiatives, including new technologies identified through a targeted GAP analysis that are not included in current program designs.
- Develop data on technologies, new energy efficiency measures, programs and market interventions that can increase the overall effectiveness of the company's portfolio of DSM programs in the event DSM budgets are expanded. This effort will work to prioritize next generation DSM programs and design strategies for TEP.
- Recommend how TEP can best achieve the market potentials and how to overcome existing market barriers.
- Analyze and report on the potential impact of near-term anticipated market changes such as energy codes and efficiency standards.
- Identify future measurement and verification and/or baseline and market assessment tasks for DSM programs.
- Identify high impact measures in the C&I sector with a focus on lighting, HVAC equipment and systems, refrigeration systems, and motors and motor drive applications. This study will focus on defining the measure specific characteristics, such as defining the various efficiency levels of HVAC systems, and also establish facility and sector level energy metrics, such as lighting power

density for specific space types (e.g. classrooms, etc.) or average lighting power for the K-12 market.

- Energy efficiency opportunities in existing residential homes including high-efficiency HVAC equipment, quality installation techniques, and other opportunities for efficiency improvements such as building envelope improvements. In addition to technology performance, this aspect of the research will also examine infrastructure conditions and needs for delivering services such as quality installation service and customer receptivity to a direct load control program.
- Identify areas of linkage and possible coordination of energy efficiency programs with other UES programs including renewable energy and demand response initiatives.

2 WORKPLAN METHODOLOGY

The process of investigating and researching the four key research areas as identified in Section 1 will follow the general task structures as detailed below.

2.1 Task 1: Project Kick-off

In this task, key members of the project team will meet in Tucson to review the overall scope of work, deliverables, budget, and timeline for the project to re-confirm and prioritize the following four key research areas.

2.2 Task 2: Review Existing Market and Technology Data

The project team will collect data on the company's existing customer base and other information on market conditions (e.g., new construction trends), appliance and technology saturations. This task will also entail a review of the program planning documents including the Measure Analysis Spreadsheets (MAS), program plans, and Technical Reference Manuals in order to identify high impact measures and high priority market sectors and end uses from a qualitative perspective. The output of this task will be a preliminary set of high impact measures and high priority end uses and market segments to be addressed in the research plan.

2.3 Task 3: Develop Research Plan

A research plan will be developed that will identify the data collection strategies, samples, staffing, deliverables and timeline for the study. The plan will focus on issues related to regional differences in customers, market segments, and end uses and design data collection strategies to capture those differences. The plan will focus research resources on high impact measures and high priority end uses and market segments. Data collection methods will be identified and data collection instrument customized to the needs of this project. Data collection methods are expected to include in-field research/inspections, telephone research and research into secondary data sources.

This task will involve discussions with stakeholders and a thorough review of available studies and data, both leading to the development of a final research plan.

2.3.1 Conduct Stakeholder Interviews

In-person or telephone interviews will be conducted with key stakeholders, including interviews with key Company DSM staff immediately following the project initiation meeting. At the Company's option, these may also include interviews with its regulators, the Arizona Energy Office, and the Company's DSM implementation contractors. Among the subjects to be covered in these interviews will be: (1) key market segments to be addressed, (2) the range of measures to be included in the study, (3) special characteristics of the Company's service area and customers, and (4) likely timing and nature of any future building construction code efficiency changes.

2.3.2 Prepare Research Plan

The project team will prepare a research plan that will include the following information: (1) an introduction with key issues, (2) a methodological framework that meets the needs of the project, (3) data collection strategy, including draft sample designs, (4) data requests, (5) a detailed work plan and schedule by task and sub-task, (6) a full discussion of project management plans, and (7) a detailed outline of the draft study report.

2.4 Task 4: Conduct Primary Data Collection

In this task, the project team will schedule, coordinate and conduct primary data collection activities. These activities are expected to include in-field and telephone research to collect baseline technology and market data. The team will utilize data collection instruments developed in the prior task. Data will be compiled in an analytic database for analysis, tabulation and reporting purposes. The final project research plan developed in Task 3 will adjust the plan below based on the actual existing data that is available for Arizona.

Subtask 4.1: On-site Commercial and Industrial Surveys

On-site surveys will be used to collect information and key commercial and industrial end uses and energy efficiency technologies. The on-site surveys used for this task combine thorough energy equipment inventories, specification of building floor space and major building construction characteristics. These surveys will include inventorying significant energy-using equipment in customer facilities, including lighting, lighting controls, HVAC equipment, motors, refrigeration equipment, air compressors, and other process equipment. In addition, the project team will conduct a personal interview with each surveyed company's energy decision-maker to collect information on how the companies make decisions about energy and energy conservation and how TEP's current portfolio of programs are received.

The sample size for the C&I on-site surveys will be specified during the research plan preparation, however, our initial estimate is that on-site data collection will be conducted at approximately 60 commercial and industrial customer sites.

Subtask 4.2: Residential Telephone Surveys

Most utilities' RASS research, while enumerating basic equipment ownership, does not also include a thorough set of questions on residential DSM measure ownership and associated energy conservation decision-making. Presuming that to be the case for the Company's recent RASS project, the project team plans to conduct residential telephone surveys to supplement the appliance ownership and demographic data usually collected through RASS research. The sample size will be specified during the research plan preparation, however, it is estimated that approximately 50 residential telephone surveys will be conducted. Residential customers are not usually aware of the efficiencies of their appliances, but often know their ages, and appliance ages are usually good proxies for their efficiencies, since federal appliance efficiency standards have changed in discrete steps over the last two decades.

Subtask 4.3: Residential On-Site Verification Surveys

To ensure that the residential telephone survey results are accurate, the project team will conduct on-site verification surveys for a sub-sample of telephone survey participants. The sample size for the residential on-site surveys will be specified during the research plan preparation, however, our initial estimate is that approximately 20 residential on-site surveys will be conducted. By comparing the on-site survey results to

the telephone survey results, we will develop adjustment factors for the telephone survey results, if necessary.

Subtask 4.4: Residential and Commercial Trade Ally Surveys

Residential and commercial trade alleys play a critical role in the success of any DSM program. This task will be to identify the key trade ally groups, by sector and program area, related to the advancement of DSM programs, and survey a representative cross-section of key trade alleys. The sample size for the trade ally surveys will be specified during the research plan preparation, however, it is estimated that telephone surveys and some in-person surveys of approximately 20 efficient products equipment vendors, HVAC contractors, builders and weatherization contractors or residential energy auditors, architectural and engineering firms will be conducted.

Questions will focus again on documenting baseline practices, availability of efficient alternatives, and comments on market penetration rates for key end uses as observed through retail/wholesale sales. Questions will also focus on trade ally experiences to date with TEP's DSM programs, and ideas or willingness to consider more expanded or more innovative DSM service options.

These surveys will generate additional estimates of the current saturations of energy-efficient end uses, building construction practices, and various home insulation levels respectively. Many vendors have good estimates of the overall market shares of energy efficiency measures from their customer interactions and/or sales records.

Subtask 4.5: Incremental Costs Research

Incremental costs represent a crucial data element for evaluating the cost-effectiveness of DSM measures. This task will consist of focusing on the most important DSM measures, in terms of potential savings and rebate volume, and surveying retailers and trade allies to estimate specific Arizona incremental cost estimates

2.5 Task 5: Develop Baseline Technology and Market Profiles

Once primary and secondary data collection is completed, the project team will analyze the collected data and develop baseline and energy efficient technology and market profiles. The profiles will include the following features at a minimum:

- Summaries of market characteristics by market segment;
- Baseline and energy efficient technology characteristics by market and specific program area;
- Estimates of penetration of energy efficiency measures for high-efficiency measures;
- Profiles of high priority market segments and end uses; and
- Research and documentation on the current market conditions "market assessment" for the residential and C&I sectors and program areas of interest to TEP. This step will serve as a useful reference point for future years as a way to measure program success in market transformation efforts.

An important step in estimating a baseline is establishing the customer characteristics and purchasing patterns that would be expected to occur in the absence of utility DSM programs. The baseline

development identifies expected future changes in construction codes, appliance efficiency standards, and other expected future changes in baseline efficiency practices. For purposes of this analysis the baseline is expressed in terms of the average efficiency level of DSM opportunities, and the quantity of such opportunities (e.g., numbers of homes, square footage of commercial buildings, horsepower of industrial motors).

The general approach to be used for this project will be one of "triangulation", in which available sales, survey, and research data, as gathered in Task 2, is combined with information collected through primary data collection from Task 4 and with industry data and estimates developed in other studies. Baselines will be developed for residential, commercial, institutional, and industrial market sectors.

The nature of the baseline will vary depending on the energy efficiency option, which may occur through replacements, retrofits, or replace-on-burnout. For lighting measures, the majority of efficiency upgrades involve replacements of existing equipment. For building construction practices, the baseline will identify the characteristics of the prototypes of buildings with the potential for upgrades to envelope, air conditioning, and other energy systems, and will also estimate the numbers of buildings or square footage needing such improvements. For HVAC, efficiency upgrades are generally done at the time of replacement, so the options for replace-on-burnout need to consider as a baseline the efficiency of new HVAC units being installed in the absence of a utility program.

Subtask 5.1: Residential Baseline Development

Review TEP Data and Results: For residential customers, we will first review Company survey data, program evaluation results, research findings, and other information gathered in Task 2. In addition, telephone survey results from Task 4, primary data collection, will aid in establishing the baseline efficiency levels for building construction, air conditioning, and lighting in the Arizona service area. The baseline development will also make use of heating and air conditioning baseline results specifically developed for the climate conditions in Arizona.

Review Appliance Efficiency Findings: Industry data will be combined with the results from the residential trade ally survey in Task 4, primary data collection, to help establish the baseline efficiencies of appliances being replaced.

Identify Gaps and Triangulate: In this step, the data and results will be combined in order to establish baselines for each residential energy efficiency measure and market segment. Where available and complete, we will use existing data from past Company RASS surveys or evaluation results. Where gaps exist, we will use the results developed above, building on the existing data collection in Task 2 and primary data collection in Task 4.

Subtask 5.2: Commercial/Institutional Baseline Development

Review TEP Data and Results: As will be done for residential customers, we will first review the existing information gathered in Tasks 2 and on-site data collected in Task 4, primary data collection. This will include Tucson Electric Power sales by customer SIC/NAIC code, if available. The baseline development will also make use of heating and air conditioning baseline results for prototype commercial buildings developed for the climate conditions in the Arizona service area.

Adapt CEUS Data: We will next evaluate the California Commercial Energy Use Survey (CEUS) data for areas most relevant to the Arizona service area and for the SIC/NAIC code customer groups evaluated above.

Identify Gaps and Triangulate: In this step, the data and results will be combined in order to establish baselines for each commercial/institutional energy efficiency measure and market segment. Where available and complete, we will use existing data from past Company studies or evaluation results. Where gaps exist, we will use the results developed above, building off existing TEP data collection in Task 2 and primary data collection in Task 4. The on-site commercial surveys conducted in Task 4 will be used to adjust the baseline efficiencies in the CEUS data to be consistent with building construction and efficiency practices found in the Arizona service area. If a consistent difference in efficiencies compared to the CEUS data is found, an across-the-board adjustment of the CEUS prototype efficiencies will be considered.

Subtask 5.3: Industrial Baseline Development

For the industrial sector, the project team will focus on targeted technologies (e.g., lighting, compressors, motors) which can be mapped to manufacturing types found within the Company's service area.

Review TEP Data and Results: In order to help identify the key industrial technologies found in the Company service area we will first review existing information gathered in Task 2. This will include customer energy use by industrial SIC/NAIC code, if available.

Identify Gaps and Triangulate: In this step, the data and results from Task 2 will be combined with the primary data collected in Task 4 in order to establish baselines for each targeted industrial technology.

Task 5 Deliverables: The main deliverables from this task are market and DSM measure baseline profiles for key industrial market sectors in Arizona. These results will be provided in Word and Excel formats.

2.6 Task 6: Develop DSM Measure Database

For this task, the project team will work with TEP staff to develop the DSM measures that will be considered in this study, and specify the TEP -specific characteristics of the measures. The project team has existing data on all the DSM measures included in the Technical Reference Manuals (TRMs) and program documentation. We will compile baseline and energy efficient measure data, demand and energy savings, customer cost, and payback information for all of the measures that TEP will be promoting through its programs in the near term. These data are compiled in the Measure Analysis Spreadsheets (MAS).

For each DSM measure selected for inclusion in this study, the project team will estimate the following parameters:

1. Electric energy savings, connected and peak demand savings specific to the service area.

2. The measure costs, including total installed costs and incremental costs relative to standard efficiency equipment, where applicable.

3. The measure lifetime in years.

4. The measure paybacks to customers, and cost-effectiveness using the four or five California standard practice benefit-cost tests: participants, utility, rate impact, total resource cost (TRC), and societal, if desired.

5. Other parameters of interest to TEP, such as non-energy benefits, the current measure saturations in nearby markets, or other characteristics.

For these measure characterizations, we will build on and supplement the existing library of measures contained in the Measure Analysis Spreadsheets (MAS). In addition to the data already contained in these workbooks, the project team will use the following information sources to assemble the DSM measure database:

- Other internal DSM measure data from the Company's current programs and previous studies not already incorporated into the Measure Analysis Spreadsheets (MAS).
- California Database for Energy Efficient Resources (DEER). This database contains the following DSM measure information:
  - Measure costs
  - Energy and demand savings impacts for 20 California climate zones
  - Measure lifetimes
  - Net-to-gross ratios for California
- California Commercial Energy Use Survey (CEUS)
  - Building prototypes
  - Energy efficiency baselines
- DSM measure databases that we've used for previous DSM potential studies.
- The results of building energy simulation analysis studies to customize demand and energy savings estimates to TEP'S unique climate conditions.

Our team will utilize impact and data from resources that reflect the unique climate conditions of TEP's service region and ensure that costs reflect local conditions.

Task 6 Deliverables: The main deliverable for this task is the Arizona DSM measure characterizations. This task will be conducted somewhat concurrently with Task 2.

2.7 Task 7: Develop DSM Program Recommendations

This task will compare the results of the potential study to existing programs at TEP, identify gaps, and make recommendations for adding DSM measures to existing programs and/or offering new programs.

Subtask 7.1: Compare Existing DSM Programs to Potential Estimates

In this subtask we will compare the market segments and measures covered by the existing Company programs to those examined in Task 6. From this comparison, gaps in segments covered and/or measures offered will be identified. These segments and measures will then be considered for possible program recommendations.

Subtask 7.2: Identify New Program Options

Next we will review TEP' recent and previous DSM program results, as well as potential new DSM programs or measures that Company staff are particularly interested in. For example, the project team may examine the feasibility of implementing a commercial sector re-commissioning program, a building operator training program, methods of promoting advanced HVAC field diagnostic techniques, and promising emerging technologies such as Demand Control Ventilation. In addition, we will consult the California nationwide DSM best practices database to specify features and results from the best DSM programs operating throughout the country that are applicable to Arizona.

Within each market sector, we will group programs by end use and market segment. We will examine each of these programs for applicability to Arizona, screening out technologies that are not appropriate based on climate, for example.

Subtask 7.3: Recommend Programs, Marketing Strategies, and Evaluation Plans

Next the project team will make specific program recommendations. Where the most cost-effective approach appears to be the expansion of existing programs, we will suggest that new measures be added. In cases where a new market segment shows promise, we will consider suggesting a new residential or non-residential program.

The program recommendations will include marketing strategies to overcome the main market barriers identified by the customer survey results. This step will focus on identifying practical, actionable, and realistic solutions that are appropriate for TEP's marketplace. The program recommendations will also cover program evaluation recommendations that will best help Company staff monitor and improve program performance over time.

Task 7 Deliverables: Summary tables which compare the measures and segments covered by the TEP DSM programs, with gaps identified. Listing of recommended additions of measures and programs, with brief descriptions. Table of final comparison of existing and newly recommended programs and resulting gaps, if any, identified.

2.8 Task 8: Documentation and Final Report

The project team will document the research process and results in a final report, and compile and provide copies of electronic databases as part of the final deliverable. The research team will also provide bi-weekly status report conference calls or in-person meetings, draft and final project reports, and presentations on the draft and final project results.

As tasks are completed throughout the project, memos will be prepared summarizing the results of the task and relevant results databases to the TEP project manager for review. Company staff will have the opportunity to review the total draft report, and submit any additional comments to the consulting team for inclusion in the final report.

In addition, we will conduct bi-weekly conference calls or in-person meetings to discuss the project's status and upcoming events for the next week. We will also prepare monthly written status reports that are suitable for use with the Company's DSM advisory group as well as Company executives.

Task 8 Deliverables: Monthly status reports, task results memos, a complete draft report, and a final project report.

3 PROJECT BUDGET AND SCHEDULE

Exhibit 3-1 presents the schedule and major milestones and Exhibit 3-2 provides a budget breakdown for completing the TEP baseline study.

Exhibit 3-1: Baseline study schedule and milestones

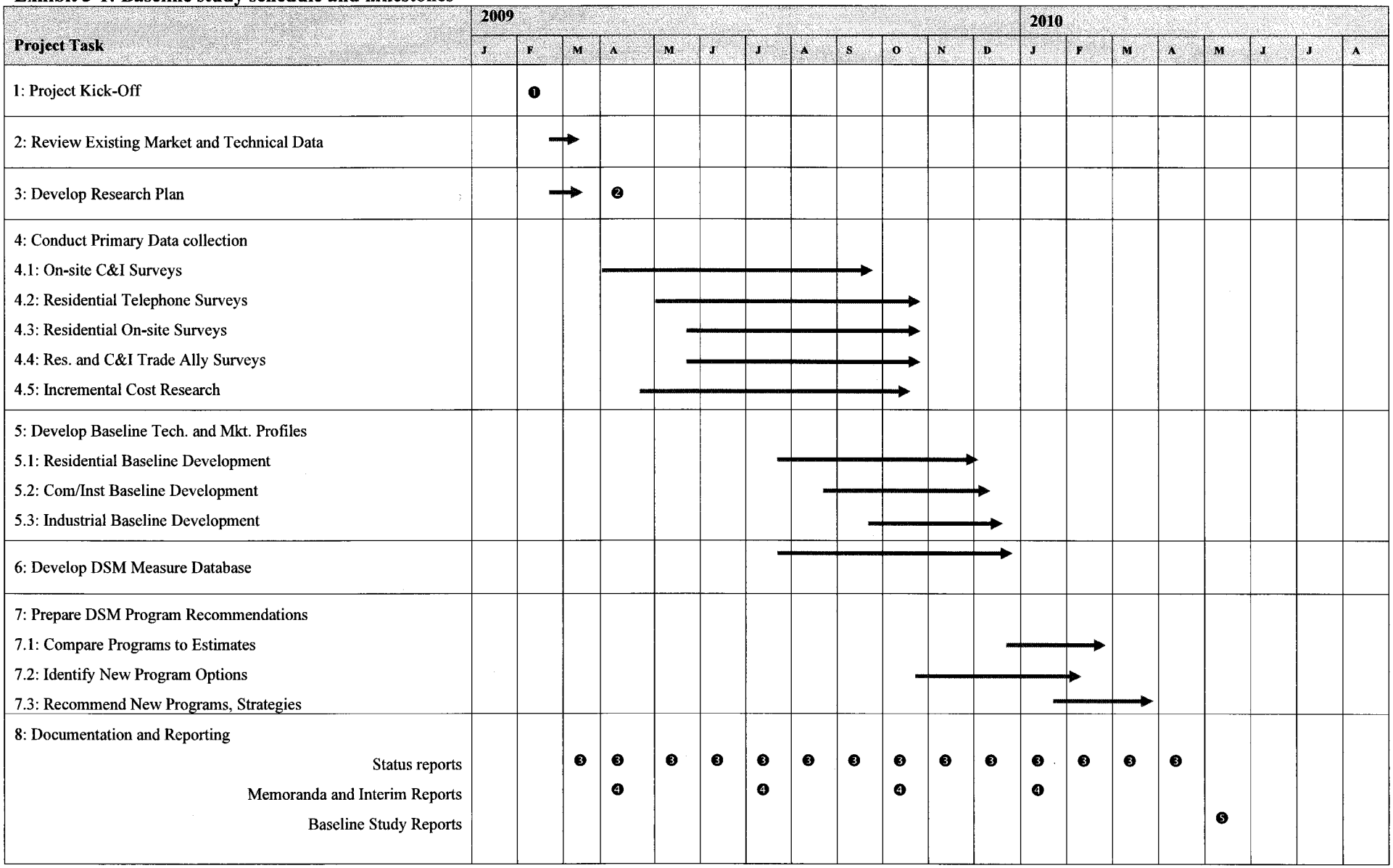


Exhibit 3-2: Baseline study budget

Task No.	Description	Total Hours	Total $
	Labor Costs		
1	Project Kick-Off	24	$3,640
2	Review Existing Market and Technical Data	48	$7,240
3	Develop Research Plan	76	$12,240
4	Conduct Primary Data Collection		
4.1	On-site C&I Surveys	100	$14,200
4.2	Residential Telephone Surveys	160	$19,700
4.3	Residential On-site Surveys	60	$9,700
4.4	Res. And C&I Trade Ally Surveys	122	$17,550
4.5	Incremental Cost Research	200	$25,400
4.6	Residential field labor		$32,900
4.7	C&I filed labor		$63,450
5	Develop Baseline Technology and Mkt. Profiles		
5.1	Residential Baseline Development	40	$6,500
5.2	Com/Institutional Baseline Development	80	$11,700
5.3	Industrial Baseline Development	24	$4,040
6	Develop DSM Measure Database	88	$14,800
7	Prepare DSM Program Recommendations		
7.1	Compare Programs to Estimates	40	$6,200
7.2	Identify New Program Options	48	$7,660
7.3	Recommend New Programs, Strategies	48	$8,360
8	Prepare Documentation and Report	72	$10,120
Total Labor		1230	$275,400
	Direct Costs		
Miscellaneous Directs	Labor @ 2.0%		$8,262
Direct Costs			$9,662
Total Directs			$17,924
	Total Project Cost		
Total Project Cost			$293,324